

## I. AMENDMENTS

### **Amendments to the Claims:**

This listing of all pending claims (including withdrawn claims) will replace all prior versions, and listings, of claims in the application. Cancelled and not entered claims are indicated with claim number and status only. The claims show added text with underlining and deleted text with ~~striketrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

### **Listing of Claims:**

Claims 1-8 (Cancelled)

9. (New) A transmission system performing optical transmission, comprising:  
a first repeater and a second repeater,

wherein the first repeater includes a first light source, a first modulation control part, a first splitter, a first optical amplifier amplifying a first optical main signal and a first fault occurrence recognizing part,

wherein the second repeater includes a second light source, a second modulation control part, a second splitter, a second optical amplifier amplifying a second optical main signal and a second fault occurrence recognizing part,

wherein the first and second repeaters are optically connected by a first optical transmission line transmitting the first optical main signal and a first optical supervisory channel signal which is produced by modulating a first light signal of a wavelength emitted from the first light source from the first repeater to the second repeater, and a second optical transmission line transmitting a second optical main signal and a second optical supervisory channel signal which is produced by modulating a second light signal of a wavelength emitted from the second light source from the second repeater to the first repeater,

wherein the first light signal is separated into a first optical supervisory signal by the first splitter which is provided between the first light source and the first modulation control part,

wherein the second light signal is separated into a second optical supervisory signal by the second splitter which is provided between a second light source and the second modulation control part,

wherein the second repeater transmits the first optical supervisory signal to the first repeater along the first optical transmission line,

wherein the first repeater transmits the second optical supervisory signal to the second repeater along the second optical transmission line,

wherein, when the first fault occurrence recognizing part recognizes a level of the first optical supervisory signal below a predetermined threshold level of the first optical supervisory signal, the fault occurrence recognizing part prevents only the first amplifier from amplifying the first optical main signal, and

wherein, when the second fault occurrence recognizing part recognizes a level of the second optical supervisory signal below a predetermined threshold level of the second optical supervisory signal, the second fault occurrence recognizing part prevents only the second amplifier from amplifying the second optical main signal.

10. (New) A transmission system performing optical transmission, comprising:  
a first repeater and a second repeater,

wherein the first and second repeaters are optically connected by a first optical transmission line transmitting a first optical main signal and a first optical supervisory channel signal from the first repeater to the second repeater, and a second optical transmission line transmitting a second optical main signal and a second optical supervisory channel signal from the second repeater to the first repeater,

wherein the second repeater transmits the second optical supervisory channel signal serving as a first optical supervisory signal to the first repeater along the first optical transmission line,

wherein the first repeater transmits the first optical supervisory channel signal serving as a second optical supervisory signal to the second repeater along the second optical transmission line,

wherein the first repeater includes a first optical amplifier amplifying the first optical main signal and a first fault occurrence recognizing part,

wherein the second repeater includes a second optical amplifier amplifying the second optical main signal and a second fault occurrence recognizing part,

wherein, when the first fault occurrence recognizing part recognizes a level of the first optical supervisory signal below a predetermined threshold level of the first optical supervisory signal, the fault occurrence recognizing part prevents only the first amplifier from amplifying the first optical main signal, and

wherein, when the second fault occurrence recognizing part recognizes a level of the second optical supervisory signal below a predetermined threshold level of the second optical supervisory signal, the second fault occurrence recognizing part prevents only the second amplifier from amplifying the second optical main signal.